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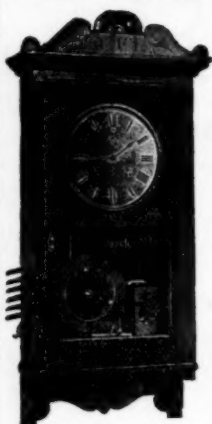
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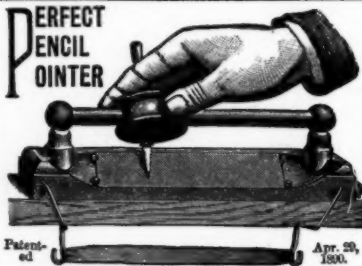
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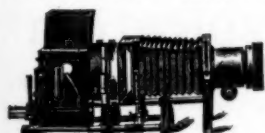
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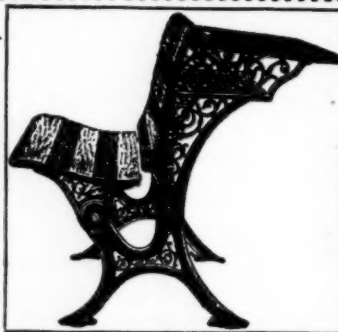
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A Weekly Journal of Education.

Vol. LI.,

For the Week Ending September 28

No. 11

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Instructors or Educators.

In a conversation with a friend this summer he referred to a visit paid a college president. He noticed an engineering paper lying on the library table. "Yes, I was a good deal interested in engineering after leaving college and like to see what is being done in the world," was his remark.

It was found in further conversation that the president did not subscribe for a single educational paper. Let us consider the bearing of this fact.

He gets his living by education. The students pay in their dollars because they suppose the college is managed by educators; the trustees hire this president and the rest of the faculty because they suppose them to be educators. He is supposed to know the current of educational thought.

He is, however, really ignorant concerning education. True, colleges can be run by men who do not know whether there are such things as manual training or kindergartens. It is not so very long since nor so very far away that a college professor declared there was no such thing as pedagogy. To have a trained mind, and to comprehend education are two different things. General philosophy and pedagogy are two different things.

What is true of this college president is true of most of the normal school principals and professors. One would think this could scarcely be true, but it is a fact, nevertheless. When Dr. Alden was principal of the Albany normal school he declared to the students of a class in the hearing of the writer: "There is no such thing as teaching one how to teach; you select subjects for your pupils to study, and get them interested; they learn them. You must, of course, know these things thoroughly." As a Christian gentleman, as a literary enthusiast, as a sympathetic teacher, no one could surpass Dr. Alden; as an expounder of educational principles he was necessarily a failure, for he did not believe in them. Of course he saw no use for an educational journal.

There are two schools of men in the field to-day as there was 100 years ago when Pestalozzi was carrying on his experiment at Burgdorf—only then the new school was represented by one man and that was Pestalozzi himself. In these hundred years the Old school which believed the pupil went to school to learn and recite lessons has seen its proportion of followers steadily

diminish, but the New school has steadily increased its proportion; it is probable that the Old outnumbers the New, but the New is in the ascendency at last.

A great difficulty is that those who select teachers do not know the New from the Old; and the Old are the better wire-pullers. In fact the new men don't rely on wire-pulling at all, and yet it has to be done. The best places until very late years were in the hands of the Old school.

Another difficulty has been that many of the new men and women while right in theory are deficient in practical ideas. They mean to educate, but do not know how to reach that sublime end. The Old meant well by the pupil, and it must be admitted that education was attained because the mind really educates itself, let the teacher be who he may.

One thing has been accomplished, for which let us be devoutly grateful. In the past, though the college president, or normal principal, or city superintendent took no educational journals, he was ready to lecture on education. But he is not so ready now; in fact, he is found more ready to decline the honor. He sees, at last, that education is getting to be a science and all his knowledge of general philosophy will not enable him to discuss it, except in a way that will make the kindergarten, the primary teacher, and the manual training disciple, and many others smile at his ignorance. In past times the clergyman was supposed to be able to discuss education at a moment's notice because he was "liberally educated." This delusion is disappearing; the clergyman is becoming wary.

The post of superintendent has heretofore been given for political reasons to a lawyer, editor, or other efficient helper in getting votes; or it has been given to some principal who has labored long and efficiently. Thinking school boards are doubting both of these classes—the former it was plainly seen did not deserve the place on any educational grounds; the latter, it was slowly learned, might be a good instructor, but really know nothing about the science of education. There is something more needed to make a superintendent than experience in the school-room. He should be a student of pedagogy. He should know the history, principles, methods, and civics of education in a very thorough manner.

A sign of the change that is coming on is quite apparent in Massachusetts. It is the determination of the state to have all teachers graduates either of normal schools or colleges, and the latter are to have a training in pedagogy. This is what will eventually be accomplished elsewhere. It will be the final surrender of the old school to the new; the going out of tradition in education, and the incoming of science. May the day hasten, for, well as the instructor meant to do for the child, the educator can do far better.

Definite Methods of Child Study.*

By S. B. SINCLAIR.

Children have no doubt been studied incidentally from the earliest times, but it is only during recent years that child study has been undertaken by definite methods and an attempt made to render the study scientific. The results gained so far have not been flashy, but many of them are highly important from the educational standpoint.

The vision of many thousands of school children has been tested and it has been found that defective vision increases from grade to grade. That this increase is mainly due to incorrect lighting, small print in textbooks, unhygienic position at desks, etc., seems a reasonable inference.

As a result of experiments upon the hearing of over twenty thousand children it has been found that defects vary from two per cent. to thirty per cent. in different grades. It has been demonstrated that in many such cases where the teacher is ignorant of the existing conditions the child is supposed to build a superstructure of knowledge upon a basis of sensuous data which he has never received and concerning which he has no more knowledge than Lock's blind man had of the red color which he thought was like the sound of a trumpet.

The different periods of child growth and development have been studied as never before. One result has been to emphasize the importance of the period of adolescence. It was formerly thought by many that owing to special physiological and psychical changes at the ages of six or seven years that period was the most important of all. While the investigation has in no sense weakened but rather strengthened the view taken in regard to the necessity of constant care during the early formative stage of child life it has established the fact that there is another perhaps equally critical if not more critical stage, namely that of adolescence which occurs at about sixteen years of age with boys and considerably earlier with girls. Previous to this period there is rapid physical growth and a general quickening of the development pace. Girls of twelve years weigh more and are taller than boys of the same age. Contrary to the usually received opinion, it seems that the period of most rapid growth is also the period of the most rapid acquisition of knowledge. For example, the time when the vocal organs are in a formative condition seems to be the nascent period for language study.

If this principle be universal in its application, and the budding time for studies, such as drawing, music, etc., can also be definitely determined, we are entering upon a new era of advancement in study, the possibilities of which have scarcely been dreamed of in our pedagogical philosophy.

Much valuable work has been done in determining the quantum of knowledge possessed by children at certain ages. For example, such results as those stated in Dr. Stanley Hall's "Contents of Children's Minds" are of great utility in affording an apperceptive starting point for intellectual building.

In the realms of the Emotional and Volitional the investigation is naturally attended with more difficulty than on the lower plane, and the results are less certain, owing to many other conditions such as heredity and environment which so largely affect the basal interests and impulses and the organization of character itself. For example, when it is found that the little children of California prefer orange to any other color, one is apt to wonder whether in the solution of the problem oranges and gold have not entered into the equation. Many practical subjects, such as children's games and plays, the hygienic results of vertical writing, etc., have been carefully investigated during years of patient enquiry.

Perhaps the most fruitful results have been achieved through bringing to bear upon the study the discoveries which have recently been made in Experimental Physio-

logical Psychology. By microscopic observation of nerve cell structure and by motor and other tests many facts can now be posited with certainty in regard to such questions as habit and fatigue which were scarcely more than hypothetical a few years ago. It is found that the large fundamental muscles develop earlier than the small accessories, and that it is therefore natural for the very young child to use the larger muscles. It is also difficult and dangerous for him to continue for a long time at work demanding minute muscular activity. This principle (with due limitation) is being applied in many kindergarten and primary grades. Very fine work is almost entirely discarded. Materials for objective illustration are made larger than formerly. The tendency in writing and drawing is toward the whole arm movement, large letters, and rough outline. In songs and physical exercises the principle of resonance is being applied, the selections chosen are more classic and the stride longer than before.

Much attention has been given to the subject of fatigue. Sandow and others have claimed that for perfect physical development a person should never continue to exercise after being completely fagged out. Experimentation seems to verify this principle and further to establish the fact that in order to secure the best results in work of any kind the worker should know in what way to alternate rest and exercise in order that his system may function at its best. The teacher who occasionally sits down may accomplish more than the one who continues standing throughout the entire day, and Crepillon was perhaps in a certain sense not so far astray when he said, "Inattention is the salvation of our children."

WHAT THE TEACHER CAN DO.

To one interested in such study and results as those to which I briefly referred the question naturally arises, "What can the teacher in an ordinary school-room do to aid in such investigation?"

It must be admitted that much of such work can be properly undertaken only by parents, that the professional training school is *especially* fitted for it, that experimentation is usually costly and that the conditions are such as in many cases to render any scientific investigation of the phenomena of child life almost an impossibility. And yet I think it will be found that every teacher can and should give a certain amount of attention to child study.

Probably the greatest advantage which has accrued from the movement thus far is that it has caused teachers to look childward, and, as they have begun to understand the attitude of the child, many difficulties in discipline and method have vanished.

The most elementary form of child study is to observe the pupil and privately note the phenomena, the object being simply to learn to understand the child. The teacher who takes the trouble to record such observations from day to day will find not only that she learns to adapt her work more readily to the needs of her pupils, but also that teaching is invested with a new charm for her.

Another form of child study is that which involves a certain amount of measuring and tabulating, and is applied more particularly to hygienic conditions. For example, the teacher makes a careful test of the defective vision of pupils and utilizes the results in seating the pupils in a proper position in relation to blackboard, etc. She may go farther and keep a record and make a report of such cases. These and other elementary forms of study can be taken with advantage in every school.

There is a higher kind of child study which may be said to be more scientific, in which a certain definite course of investigation is taken up and prosecuted so thoroughly as to furnish data which may serve as a basis for important educational conclusions.

The following are examples of subjects which have been treated in this way: "Fears in Childhood and Youth," "Imitation of the Teacher by the Pupil," "Child Language and Growth of Memory in School Children."

*From an address before the Ontario Educational Association.

In regard to such study certain points may well be borne in mind if satisfactory results are to be obtained. The teacher must be instinctively drawn to the work for its own sake. The subject chosen must be one in which she is interested and from which a certain amount of immediate benefit will accrue. For example, an investigation of the views which children hold regarding religious questions may be of value to ethical science but the investigation will be of little value to the teacher or class who furnish the information. On the other hand, in an investigation of such a subject as "Fatigue" the case would probably be quite different, for certain defects would be revealed which would admit of immediate remedy.

The subject chosen should also enlist the aid of parents, and in any event it should never be such as to arouse their opposition. For example, it might be of value to know how many corporal punishments pupils receive at their homes, but parents would naturally and properly object to such an investigation, while, on the other hand, they hardly approve of an investigation which results in the pupil being placed in such a position as to secure the best hygienic advantages.

Printed syllabi containing carefully prepared questions on such subjects are now sent by mail from a number of local centers, and all that is required of the teacher is to record observations and send results to headquarters to be worked up. The investigation should also admit of a definite and easy plan of application, and should never occupy more than fifteen minutes per day of teacher and pupil's time. A method of test can usually be found which will not in any way interfere with the regular work of the school. For example, language and memory tests can be best made by examining the daily work in class. Pupils should not be taken from the class-room and subjected to long examinations. As a rule, pupils should not know that they are being studied. If they do, the results are usually abnormal and the pupils tend to become self-conscious. There are exceptions to this rule, however. For example, a child who has formed a habit of walking with his toes pointing inward will feel very awkward and self-conscious when he begins to place them in the correct position. Notwithstanding this the correction and observation should continue.

Finally, in performing experiments and recording results, the greatest care must be exercised otherwise the results are worthless.

Dr. Fitch's remarks in regard to the study of physical science apply very fully to child study. He says, "The student must begin by noticing the phenomena, must put together and register the results of his observation must hesitate to generalize too soon, must suspend his judgment until he has facts enough, must verify each hypothesis by new experiments, must learn how to make a legitimate generalization from a multitude of particulars, must hold his generalized truth even when he has it only provisionally, knowing that it too may possibly require to be corrected or at least absorbed by some larger generalization."

Normal School, Ottawa.

Prof. Petrie, the great Egyptologist, at the meeting of the British association maintained that our form of civilization is not the best for the Egyptian. Prof. Haddon said: "Savage customs are often as powerful for morality as those we have sought to inflict, and there is no reason why we should interfere with them any more than is necessary to make life and property safe. Many good people have confused clothing with morality, but the experience of all travelers is that there is absolutely no connection between the quantity of clothes and the degree of virtue. If we want to extend the markets for cotton goods let us do so honestly, and not under the pretence of advancing religion and morality." Others criticized missionary effort, and there was not one among the many who spoke who defended the present missionary systems from the scientific or anthropological point of view.

Medical Aspects of Child Study. II.

(CONCLUDED.)

By ADOLPH A. HIMOWICH, M. Sc., M. D.

According to Schadow there is a retardation in the growth of the child after the age of seven. The ratio of the upper part of the trunk (chest) to the lower (abdomen) is 1:1; in the adult it is 1:1.618. The normal ratio adjusts itself about the eighth year. The measurement of the waist increases mainly up to the ninth year, when it stops, then there is again an increase in growth from twelve or fifteen throughout the period of adolescence. There is therefore little development before the time when the child is doomed to long sedentary work.

The above mentioned facts seem to indicate that at about the age of seven or eight the child's mind is ready to begin study. It is at this period of life that there is in some measure a consolidation of all the organs and the beginning of a retardation in growth. The earlier the age is at which the child is sent to school the more likely it is to suffer from school diseases. An unfitting or changing temperature, bad weather, dust, infection, lack of breathing exercise, pressure on the abdominal region, all these influences make themselves felt in some form or other as epistaxis, headache, anæmia, and scoliosis, the last named disease sometimes making its appearance quite early. A wrong sitting position; twisting the shoulder during writing; the oblique position of the head, due to following the pen attentively; the spoon-shaped hollow of the seat, which is generally narrow and presses on the tuberosity of the ischium;—all these are often responsible for spinal curvature in the very young. The more serious school diseases are unfortunately too well known. Over excitement and fatigue give rise to, or increase the tendency to epilepsy, increase the tendency to tubercular meningitis, and aggravate the complications of chorea.

It is not only the nervous system of the child that presents so many differences anatomically and chemically from that of the adult; the digestive organs also present great peculiarities, the small size and vertical position of the stomach give rise to a number of abnormal symptoms; the abnormal length of the lower part of the colon is often the cause of protracted constipation.

The blood and the organs of circulation exhibit many points of difference in the child as compared with that of the adult. The child has less blood as compared to its weight than the adult. The blood in the young has less fibrine, fewer salts, less hæmoglobin, less soluble albumen, less specific gravity, and more white blood corpuscles than the blood of advanced age. These facts are of extreme importance in dealing with children when they have reached the time of puberty. There are very great differences in the blood vessels of the young. The difference in circulation effects great differences in all the organs of the child, especially in the kidneys.

The arteries, veins, lymphatics and nerves are larger in proportion to the parts which they furnish, drain, or supply, than they afterwards appear. The thoracic and abdominal organs are developed to a greater degree of perfection in comparison with the brain and organs of generation, the bones are less firm, more elastic, the muscles softer and less capable of great effort. The fact that the circulation and elimination is more active in the child than in after life should enter thoroughly into the consideration whether it is justifiable for a teacher to prevent children from leaving the school-room during exercises, even at the risk of occasional imposition and lack of order.

In infancy and childhood the vital powers are occupied exclusively with nutrition and growth essential to the existence of the individual. On approaching the age of puberty, in addition to this there now occurs the still more remarkable evolution, structural and functional, which controls the perpetuation of our species.

This is the time when the greatest knowledge and tact should be exercised, as on the successful management of this period of life will, in most cases, depend the future welfare of the individual.

At that time there appear some very difficult questions,

difficult not only to the layman, but even to the trained physician whose daily contact with all kinds of peculiar cases makes him quick in recognizing facts quite obscure to the general observer.

At this period of life both sexes manifest special tendencies to the development of tubercular disorders, gastro-intestinal complaints, as well as pulmonary, hepatic, and cerebral diseases.

These facts are more than convincing that for the period of puberty the curriculum of study should be so arranged as to counteract sedentary habits and encourage outside work. In a word the work must be so arranged as to keep the pupil's mind continually occupied in healthy and pleasant activity.

The condition of female children at the period of puberty requires special consideration. To this period is incident a very long and complicated list of phenomena which ought to be duly studied and recognized by educators and teachers, inasmuch as timely treatment and suspension for a season from the routine duties of the school-room may save many a girl from complete ruin corporal and mental.

The pathology and hygiene of puberty is of such great importance to parents and educators that I shall not attempt to dwell on them in an article of this nature. Suffice it to say that by carefully studying the pathology of puberty the educator may hope to be able to remove the causes of a great number of diseases peculiar to this age, diseases which have a great influence upon the future life of many individuals and families.

In conclusion I shall repeat what was said at the beginning of this paper, viz., that these remarks are not intended as a systematic exposition of the anatomy, physiology, and pathology of childhood and puberty. Merely a few facts have been enumerated in order to show the help that scientific pedagogy may derive from the study of the physical condition of the child in its varying phases.

Every science became such through first studying the simplest phenomena and trying by experiment and reasoning to interpret them correctly.

Unless the physical conditions of life are thoroughly studied, the science of pedagogy, it seems to me, will have no solid foundation.

New York City.

Teaching Hygiene:

INSTRUCTION NEEDED ON CONTAGIOUS DISEASES.

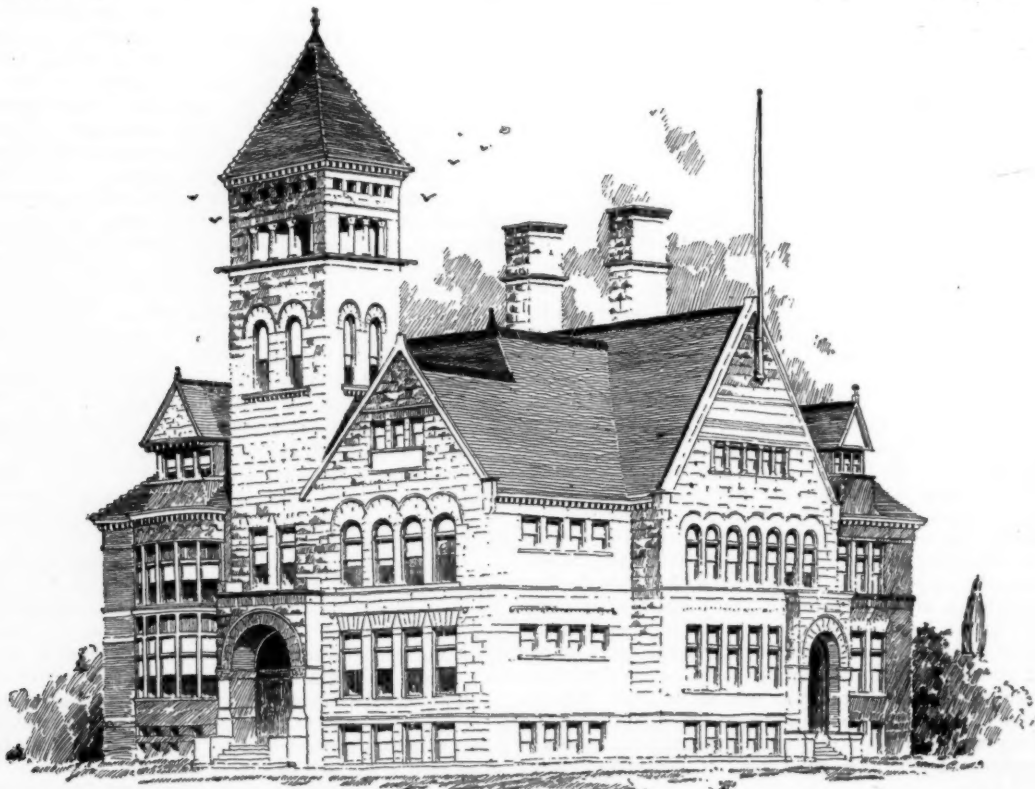
(Extract from an Address by Prof. Delos Fall, M. S., member of the Michigan State Board of Health.)

The teaching of hygiene has heretofore consisted in enforcing wholesome lessons in diet, exercise, the value of pure air and how to obtain it, the evils of contaminated water, improper clothing, etc. This has all been well, and yet the fact remains that beyond some personal discomfort on the part of those who have transgressed the laws of diet, exercise etc., no fatal results have occurred. Vital statistics are utterly devoid of any mention or suggestion that any minute fraction of the large mortality among children arises from this direction.

It is a fact that people do not die from the violation of the ordinary laws of living, but rather from those extraordinary causes as, for example, when the germs of some contagious disease are thrust into the system. This being so the direction which our teaching should take is very evident.

And this is the plea that I desire to make, viz.: That there be a radical change made both in the matter and the method of our teaching of so-called hygiene, or, as I prefer to call it, sanitary science. Every child in our public schools should be taught the facts concerning the germ theory of disease. He should be taught something of the manner by which investigations are carried on by which is ascertained the true relation which exists between a specific germ and a specific disease. That there is a germ which is well known, by name *Bacillus tuberculosis*, should be as familiarly known as that there are other plants known as *Fragaria vesca* or *Cucurbita pepo*; and further that it is as certain that when the bacillus tuberculosis is planted in a favorable soil we are just as certain to get a crop of consumption as that planting the seeds of the latter plants we will get a crop of strawberries or pumpkins.

Careful instruction should be given concerning the most commonly occurring diseases, small-pox, consumption, scarlet fever, measles, diphtheria, typhoid fever, whooping-cough etc., etc. The pupils of our schools should learn the premonitory symptoms, the



HIGH SCHOOL, MENOMINEE, MICH.

specific cause, if that be known, the method of spread, the method of prevention, whether isolation or disinfection, or both, are to be practiced. They should be taught what is meant by isolation and how disinfection is carried on in the sick room, the disinfection of the air, the food, clothing, hands and body of the nurse. They should have a keen appreciation of the precautions which the cautious physician will always take in the case of a communicable disease. The relations of health officer to the sick and to the physician in charge, the duties of the health officers, his powers under the law, and, in fact, all health laws, should be studied in school. Scholars in our schools should be so taught that they will appreciate our vital statistics, and profit by them. These are a few of the subjects which might well be substituted for that which is at present taught under the head of hygiene.*

Nature Lessons.

By LOUISA PARSONS-HOPKINS.

Entering a pleasant primary school-room toward the last of the spring months, I proposed to the young teacher to give the class a lesson on the wild daisy, a large bunch of which stood upon the desk before her. She seemed somewhat reluctant and thought there was not daisies enough to give each child one. I suggested that two children might observe one flower, but she still hesitated. I saw a crayon drawing of daisies on the blackboard which indicated a very superficial study of the flower, and was by no means a truthful representation of the structure and environment of the plant. I spoke of this and she admitted that she was not very clear in her knowledge of the daisy and made that from a printed copy and not from the plant itself; it was intended as an ornament for exhibition and to decorate the blackboard. She said she had never studied the flower and did not know how to classify and describe it. However, she said she would try to give a short lesson if I wished.

She distributed the daisies in the vase, and then, holding up one so as to present the blossom as if it were a face, she pinched the involucre about the golden head and told a short story about a little girl named Daisy who went to walk in the fields with her sun-bonnet on, her white ruffled sun-bonnet like this (turning the golden head about in different directions). "This little girl," she said, "had pretty golden hair and a wide green and white pointed collar which you see when you take her bonnet off; she went dancing about in the grass and the wind blew her white ruffles, and she met ever so many more little girls nodding and dancing with their slender forms and green fluttering dresses and golden hair shining in the sun. They had a lovely time playing hide and seek at the party, and at last they covered their faces up with the white points and fell asleep, and the dew came down and gave them drink, and washed their faces all fresh for another day."

The children evidently enjoyed this story and the fancy of the daisy as a little girl, but what had they gained from such a lesson, in observation or in scientific methods of study? What unfolding of any of their powers of reasoning, or even of spiritual perception? Only the imagination had been appealed to. It was a lesson possibly for a kindergarten morning talk, or for a play hour, but not in any sense a scientific exercise. I did not wholly condemn it as a relief from the regular work, but asked why she did not introduce some-

thing of the structure of the flower, and call attention to its composite character and make a point of classification. The young teacher said she really didn't know anything about it herself, that they didn't get as far as that family of plants in the high school, and had never taken it up in the normal school. After giving the class a brief lesson to bring out the distinctive features of the flower and develop the observation and comparison of the children with the flower in their hands, I left the school with a renewed sense of the need of trained teachers in this branch if anything like scientific habits of observation is to be cultivated in the schools.

After continuous effort as supervisor of this department to secure special training and preparation by establishing special grade certificates for teachers of elementary science, I had the satisfaction of seeing special teachers appointed in many of the schools as a part of the experiment of departmental instruction in the grammar schools of Boston.

Many opportunities for special training in natural science are open to Boston teachers. The natural history society invites them to its museum and library, the teachers' school of science is conducted every Saturday for their benefit, giving the first advantages of the profession, and courses of lectures which are free in every branch of natural science. Two scholarships are instituted for public school teachers in the Marine Biological laboratory for summer work and summer courses are carried on at Harvard college, as well as courses all the year at the Institute of Technology to which the teachers of Boston are eligible. A special certificate for science teaching would create a demand for these courses and give the schools thoroughly prepared teachers for these new lines of work; such certificates, insuring special rates of compensation, are necessary to break up the apathy which has characterized the teachers who dislike to use their Saturdays and vacations for extra work.

PLANT LESSON IN A PRIMARY SCHOOL.

A potted lily with large leaves is in the window, also a potted growing violet, with its cluster of heart-shaped leaves hanging outward. The two plants are placed before the class. John brings a pitcher of water and Mary a sponge filled with water. While the class is looking on John pours gently some water on the lily plant; it trickles down upon the surface of the leaf, and runs in the deep channels of the leaf-veins down to the center of the plant. Mary squeezes her sponge high over the violet plant, and the drops trickle down from the base of the leaves over the blade toward the drooping points from which they drip to the ground in a circumference corresponding to the spread of the plant. What is the water for? It is to give the plants drink. What part of the plant has little mouths that can drink? The ends of the roots. Which plant has a root in the center just below the stem? The lily. How is it with the violet whose leaves shed the water all around it? It has a spreading root. Why then are the lily leaves deeply channeled to the stem which comes directly out of the bulb? Why are the violet leaves drooping over with pointed ends? The wise contrivance, the conformity of structure to function, the providence of God who made all, is thus brought out.

Education and Civilization.

Ideas Worth Considering.

Prof. Flinders Petrie, the eminent anthropologist and Egyptologist, criticises the usual mode of spreading our so-called civilization among other nations. He contends that climate, occupations, and race-conditions cannot be set aside. He says:

"We may despotically force a bald and senseless imitation of our ways on another people, but we shall only destroy their life without implanting any vitality in its place. No change is legitimate or beneficial to the real character of a people except what flows from conviction and natural growth of mind, and if the

*The Michigan state board of health publishes leaflets and pamphlets on the prevention of some of the most dangerous communicable diseases—consumption, diphtheria, typhoid fever, scarlet fever, measles, whooping-cough, and small-pox. Any one or all of these leaflets can be had on application to the office of the board at Lansing. The board also publishes a four-page leaflet containing instructions as to how all of the most dangerous communicable diseases are spread, and how they may be restricted. This leaflet can be had on application.

The above-mentioned new law now requires those subjects to be taught in every public school in Michigan, and "teachers to give oral and blackboard instruction, using the data and statements supplied by the state board of health."—Teachers should address Henry B. Baker, secretary state board of health, Lansing, Mich.

imposition of a foreign system is injurious, how miserable is the forcing of a system such as ours, which is the most complex, unnatural, and artificial that has been known, a system developed in a cold country, amid one of the hardest, least sympathetic, most self-denying and calculating of all the peoples of the world. Such a system, the product of such extreme conditions, we attempt to force on the least developed races and expect from them implicit subservience to our illogical law and our inconsistent morality.

"The result is death. We make a death house and call it civilization. Scarcely a single race can bear the burden, and then we talk complacently about the mysterious decay of savages before white men.

"The general impression in England is that reading, writing, and arithmetic are elements of education. They might be so to us, but they assuredly are not so to other races. The exquisite art and noble architecture of Mycenæ, the undying song of Homer, the extensive trade of the bronze age, all belonged to people who never read or wrote. Some of my best friends in Egypt are happily ignorant of such accomplishments, and assuredly I never encourage them to any such useless waste of their brains. The great essentials of valuable character, moderation, justice, sympathy, politeness, and consideration, quick observation, shrewdness, a keen sense of the uses and properties of things, all these are qualities on which I value my Egyptian friends, and such qualities are what should be evolved by any education worth the name. No brain, however humble, will be worse for such education, which is hourly in use, while in the practical life of a simple community the accomplishments of reading and writing are not needed perhaps for a week or a month at a time.

"The keenest interest is taken by some races, probably by all, in geography, modes of government, social systems, and in most countries the element of hygiene and improvements in dwellings and in the arts of life may be taught with the best results. There is, therefore, a wide field for the education of even the lowest races without throwing a great strain on their mental powers."

These utterances before the British association produced a profound impression. He said the Europeanized Egyptian had, like a piece of blotting paper, absorbed some of the features of our civilization—often the injurious. The reading, writing, and arithmetic thrust on him had made him silly and had undermined his health.

Manual Training and Character.*

By CHARLES H. KEYS.

Manual training means training the mind to use hand and eye in connection with other sense organs and acquiring knowledge from well-planned and graded contacts with objects, in giving expression to the thought stimulated by these contacts, and in transforming by tool and machine crude matter into forms of beauty and utility. Its aim is the development of conscious, skilful energy and the subordination of every other power of body and mind to the action of the will. Its chief product is never the accurate drawing, the beautiful sketch, the well-made garment, the well-cooked dinner, the exactly-fitted joint, the perfectly adjusted machine, the intricate and ornamental iron work, the thing of beauty which seems to speak to us from wood or clay; but it is the self-controlled, self-centered young man or woman who has learned how to live and prepared himself to easily learn how to get a living. It is the boy who is to be a man rather than simply a machinist, a citizen rather than simply a carpenter. It is the boy who aspires first to the high estate of right living, and afterward to the successful following of the calling for which he has in his training discovered his adaptability.

The girl trained in such a school will come out to honor first the demand of society and home for an intelligent, careful, noble woman who can be, when occasion demands it, the true friend, the helpful wife, or the worthy mother. The teachers in such a school must not be simply expert carpenters, designers, blacksmiths, machinists, draughtsmen, seamstresses, dressmakers, milliners, or cooks, but all should be artists in one thing

and that one thing is teaching. Their chief study should be "How boys and girls grow."

Manual training should have a place in our secondary schools because it will teach boys and girls to entertain real respect for honest labor.

Deny it how we will, our sons and daughters are being educated to believe that true gentility and manual labor are incompatible. What wonder that the American boy more easily becomes an agent than an artisan? No boy who has, with his own hands, used the tools of the woodshop, the pattern shop, the smithing and the machine shop, knows what it is to earn directive intelligence by the sweat of his brow, can ever fail to recognize in every honest toiler a brother man. No girl who has along with her Latin and mathematics mastered the elements of the arts that invite her to the clay room, the carving room, the sewing, and the dressmaking room, or the kitchen of the manual training school will ever grow up to dread association with working people, or the mother, whose sons are dudes. Manual training in our high schools will make respectable science work, which is now almost unknown in such schools, both possible and easy. It will give boys and girls the highest kind of moral culture. For these reasons I believe it to be the education the youth of our country demands; the education which, as George William Curtis has said: "Shall with one hand point the young American to the secrets of material skill and fullest intercourse with all mankind, while with the other he shall point to lofty thoughts and commerce with the skies."

Throop Polytechnic Institute, Pasadena, Cal.

Letters.

Business Training.

Editor of THE SCHOOL JOURNAL:

You have asked me to state to you within a limited space my settled convictions on the subject of business education. If there is anything in the world that I profess to understand it is that phase of education which has come to be designated by the term "Business;" though why any and every sort of education should not be *business education* I am not able to say. I shall not dilate upon the fact, which has been better stated by thousands of better men, but simply assert it, that education is never bestowed but always acquired; and the difference between schools or between teachers, lies in the ability, or the chance, as the case may be, to so direct the mind that it shall grasp the subjects desired to be inculcated, and hold them in eternal possession.

A training for business is a training for life, for none of us who amount to anything, or who desire to amount to anything, can evade our responsibilities as citizens and promoters of the public good. That, I take it, is "business" of the most serious kind. Among people who do a great deal to promote the public good are ministers, lawyers, doctors, teachers, merchants and street cleaners,—each responsible in his way for the faithful discharge of his duty, and all necessary for the comfort of mankind and the promotion of the highest ideals of living. To promote the best results in all these different callings, except perhaps the last, there have been and are regular schools established, wherein the highest principles are laid down and enforced, and such practice as is possible to clinch the instruction is had. The minister preaches his lay sermon; the doctor carves dead bodies, and sometimes live ones; the lawyer practices in his moot court, and the merchant sharpens his wits in various ways, and is taught—even in the schools—how business *should be* done, if it is not; and I should be doing injustice to Colonel Waring if I should admit even for one moment



S. S. PACKARD.

*Part of an address before the manual training department, N. E. A.

that even street cleaners should not be "trained" to the high functions of their profession.

The particular part of this educational work which has fallen to me during my mature life relates to the qualification of men and women for the duties of what is known as business. Should I attempt here to say what many fervent and over-zealous teachers do say, that through any processes, real or imaginary, we succeed in making merchants and bankers and experienced publicists off-hand, I should say what any thinking person would know to be untrue. If I have learned nothing else in the nearly fifty years which I have given to this work than that education, at the best, is fragmentary, I do not consider the time wasted. The most that schools or teachers can do is to inculcate principles so strongly that they shall become the guiding rules in after life. The practice necessary to enforce those rules, in the broadest and most effective sense, can never be given in schools. It can be begun there and sufficiently enforced to show the value of the principles. The efficient banker, merchant, lawyer and doctor become so after leaving school; and while there are occasional men who by some stroke of genius, or through some remarkable natural gift reach these high functions, as Minerva sprung from the brain of Jove, they are rare exceptions, and known to be so. Most of us are plodders, and we should be proud of the designation. But there is a difference in plodders, and that difference arises mainly from what may properly be called education. If a man plod, regularly and surely, in the right direction and towards the right end, he need never be discouraged, and that he may do so, schools are established and teachers live. The business colleges of this country have come into a glorious patrimony. Some of them know it and are sufficiently thoughtful and reverent to use their knowledge wisely and conscientiously; others there are, as in all professions, who take advantage of the public sentiment which has grown through faithful devotion to principle, and trade upon that sentiment by putting forth a base imitation and calling it genuine. And the difficulty is that the "public"—that strange compound of trustfulness and suspicion, has neither the time nor the means for discriminating, and in the general condemnation of the poor work done the competent and faithful suffer with the rest. There are, in fact, no other educational specialties in which it is more difficult for a superficial observer to judge between the true and the false. Commercial schools and fall grades are just what their projectors choose to make them. They are under no superintendence from the state; are subject to no limitations or requirements, and cannot be called to account for any derelictions. So far as interference from any quarter is concerned, their work, as judged by themselves alone, is final and it is only when the graduates put their qualifications to test in the counting room and the bank, that the genuineness of the instruction is determined. If this test is satisfactory, the particular school gets the credit; and if not, all schools suffer. There is a special temptation which begets business schools. Necessarily, their work is restricted to a few studies, and these of the most practical sort. Nobody has ever defined a business education, nor can anybody set its bounds. The main thing recognized in it is "hand-writing." Even the typewriter has not been able to rule out this sublime accomplishment. It is the one thing in education that attracts attention because it can be seen, and because everybody can judge of it. And thus has it been from the first movement in commercial education until now that penmanship has been the leading card. And there is another and more potent reason for this. There is no other class of schools in which there is such vivid and intense competition. Young people must be attracted to the competing schools, by whatever devices can reach them—and nothing is more potent than a display of penmanship; and the more florid and unpractical, for this purpose, the better. So, the prospectuses of the schools, and the flaring advertisements of various kinds they send out, must revel in ornate conceptions of flourished forms of beasts, birds, and flowers—all beautiful to the eye and all as far removed as possible from any bearing on the practical duties of accountants, which is the special work of "business" schools. Another fad has recently struck a certain class of would-be business educators, and is having its run. Its main boast is that it does away with education and with study of all kinds, and at once puts the would-be accountant at work. It has various designations, the most "pat" and seductive of which is "Actual Business from the Start." Its shibboleth is a war cry of extermination on text-books, and the substitution therefore of drawers and traps and an expensive outfit to be furnished at a fair margin of profit by the promoters of this Squeers method of knowing things. This patent system, like the "whole arm movement" that revels in impossible birds and crawling things has the charm of novelty. It touches the ear as does the other, the eye, and so helps to confuse the mind as to the real meaning of business education.

Let it be remembered, once for all, that education of whatever kind requires the healthful use of the mind, and that the most that educators can do is to so direct the mind that it may work freely, constantly, and logically to the best results.

Business education is no exception to this rule.

S. S. PACKARD.

"Tolstoi as a Teacher."

In the article on "Count Leo Tolstoi as a Teacher" in the issue for Sept. 21 the types played havoc with proper names.

Count Tolstoi was born at the village of Yasnaya Polyana, which means Plain Field. By the way, the date of his birth, August 28, should be designated as O. S., the Russians still clinging to the elsewhere obsolete chronology. In the third paragraph Goucharoff should be Gontcharof or Goncharoff, and the more common spelling of the author of "Red Nosed Frost" is Nekrasof. As for Turgénief, unfortunately the custom has become ingrained for the spelling there adopted.

It is to be regretted that a language so difficult to pronounce as Russian is, should be made to appear far more so by the unscientific and contradictory methods used in transliterating it. The Germans employ seven letters, *schtsch*, to express one single Russian character! And the absurdity of the German method when applied to English may be seen in the chapter on Tolstoi in Max Nordau's "Degeneration." The words are almost unrecognizable. I believe the Literary Association some years ago adopted a plan which was expected to become universal. But even now the best informed journals still spell tsar, czar!

NATHAN HASKELL DOLE,

Supervisor of Drawing in New York City.

The new budget of the board of education will provide for three new assistant superintendents. At the meeting where this was reported Commissioner Holt asked whether provision had been made for appointing a specialist for training the teachers in methods in each of two departments of physical instruction and drawing. In that question he voiced a crying need of New York city schools.

New York is almost the only city which does not include among its superintendents, a supervisor of drawing.

Teachers in all the schools receive circulars from teachers of drawing who offer to teach them the methods of presenting the drawing to their classes, at varying prices. In my own classes of teachers I found teachers not only willing to give the extra time, but also to pay for instruction in methods of drawing which their more fortunate fellow teachers in Brooklyn and Jersey City and every other large city receive from the supervisor of drawing.

Is it not time for New York city to provide its noble band of earnest teachers with the help that a drawing supervisor alone can give, especially since the class teacher is held responsible for the results of the instruction of the special teachers of drawing?

Recognizing the need of this instruction the New York Society of Pedagogy last spring gave a special course to its members. Mr. Henry G. Fitz, himself a successful artist and a most original and successful teacher in several of the city schools, explained to about 200 teachers the principles which have made his instruction successful. Drawing is with him no mere accomplishment, it is a most efficient means of mind training. His methods when presented to the art teachers at Denver excited the keenest interest. If a vote of the teachers were to be taken they would not only declare that they need a supervisor of drawing, but also that Henry G. Fitz is the man who possesses the training and the inspiration to make drawing in all New York schools the vehicle of mind training, which the schools in which his methods have been adopted so signally show. For the last five years he has been doing, for nothing, what supervisors of drawing in other cities have received large salaries for doing, viz., inspiring teachers of the city schools with a desire to obtain better results from the instruction in drawing, and showing them the means by which drawing can be made a mode of mind training.

I studied many systems of drawing when I took charge of that work in No. 90, but the first real aid I obtained from a series of lessons given by Henry G. Fitz. Any teacher (and there are hundreds who know him) will testify to his power of inspiring enthusiasm, and his work in the evening high school as well as in the other schools under his charge will offer the testimony to the success of his methods.

Our board of education will do well to consider these facts when appointing the three new superintendents; for no other reform they can make, can improve our city schools, or add to the efficiency of our course of study, more than this of giving our teachers the aid of a supervisor of drawing—a subject which the last few years have seen revolutionized as a school study. Introduced as a mere æsthetic accomplishment, it has in the hands of the best teachers an indispensable aid in mind training.

Our course of study rightly emphasizes its importance, and, with a special supervisor to inspire our teachers and introduce in all our schools the methods which have proved successful in some, our city would assume in this department the position which her pre-eminence as the Empire city of the Empire state entitles her.

Grammar School, No. 90.

H. G. SCHNEIDER.

Editorial Notes.

Italy cannot but attract attention. She has just celebrated the twenty-fifth anniversary of the entrance of the Italian army into Rome. King Humbert gave amnesty to some of the men sent to prison for participation in the last Sicilian rebellion, but according to the present outlook he will soon have thousands of other rebels to send to jail. Something equivalent to a miracle is needed to prevent a revolution next winter; already there are not less than 80,000 men without work, and every one with a natural, ingrained taste for brigandage, even in normal times. The grain crops have failed and the wine harvest is not likely to turn out any better; the famishing people are being harried by tax-gatherers and maddened by landlords. All this comes from the heavy taxes Italy has to pay to keep up its army.

Are there some high schools where the question of exchange on Europe has not been discussed? Probably. Against what do bankers draw? Cotton, corn, wheat, and meat bills. Besides, just now the Mora claim of 1½ millions has been paid in a draft on London and against that exchange will be drawn. Then the Anaconda mine has been sold to English capitalists for six millions. All these are interesting points and must not be kept away from the boys.

The article on "Nature Lessons" in the present number will be read with interest. It was written by Mrs. Louisa Parsons-Hopkins, who died several months ago. The author was for many years a supervisor of the public schools of Boston and one of the most prominent women in the educational field.

Two of the articles in this number are devoted to child study. Prof. S. B. Sinclair, of the Ottawa normal school, gives helpful suggestions as to the methods teachers should follow in the observation and study of children. Prof. Sinclair has been a devoted investigator in this field for some time and holds a prominent place among Canadian educators. His efforts to help advance the cause of the new education through lectures and contributions to pedagogical literature have made his name widely known in this country. Dr. Himowich, the second part of whose article on "Medical Aspects of Child-Study" is published in this number, is a practicing physician in New York City. He takes much interest in the child-study movement, which has rapidly spread in this country and has opened new fields of pedagogical investigation and experimentation. As a medical practitioner, he naturally lays particular stress on the pathology and hygiene of childhood and adolescence. His article is of particular interest, as it treats of great physiological problems with which educators have to deal and which are rarely discussed in educational journals and text-books. Upon the solution of these difficult questions depends a great deal in an education that aims at moral character building. In fact, as Dr. Himowich rightly says, the science of pedagogy can have no solid foundation unless the physical conditions of life are thoroughly studied.

In an interview with the school board of Conway in Wales last summer, the objection they made against the education of all was, that there would be no stable boys. But, no matter how universal education is, there

always will be persons who prefer to do manual work to intellectual and some special form of it to every other form. Those have read Silas Marner to little purpose who do not see this. The schools cannot, if they would transform all into Tyndalls and Huxleys.

Parents do not visit the schools some teachers complain. Why don't they? It's because the teachers do not visit the parents. There should be a closer intercourse between home and school. Let the teacher make a start to bring this about.

"Business Education," is the subject of a letter of S. S. Packard (page 246). Mr. Packard stands in the front rank in business education, and the institution of which he is the head and soul has an international reputation. His letter, though principally dealing with the problems involved in that particular part of educational work to which he has devoted his life, contains a great deal of solidly helpful advice for all who are engaged in teaching.

The article on Tolstoi's educational ideas, which forms Part II. of Mr. Boris Bogen's characterization of "Count Leo Tolstoi as a Teacher," will appear next week.

Does it pay to read books on Education? Here is an incident which may help to answer. In a village in Massachusetts there was a school having a principal and three assistants; one of the latter had by hard work got an education while at home on a small farm in a mountainous part of the state. She had found a small book called *Unconscious Teaching* and from reading it concluded that there were *principles* in education. After her appointment she bought Parker's *Talks on Teaching* and one or two other volumes and was joked by the other two ladies, because she read such "poky" books. She was not a skilful teacher, but the principal was so impressed by her intellectual comprehension of her work that he recommended her to a friend in a letter as "a teacher who thinks and who will eventually be a teacher of mark." She received an appointment at an increased salary, and fulfilled the prophecy made of her. She said her progress was due to reading upon education.

Leading Events of the Week.

Re-union of the survivors of the Army of the Cumberland at Chattanooga.—Different states dedicate movements on the battle-field of Chickamauga.—A second loan to China guaranteed by Russia and France.—Spain borrows money of Parisian bankers to carry on the war in Cuba. Many arrests for political offences are made in Havana; an attempt will be made to carry out the relentless policy of Premier Canovas del Castillo.—On Sept. 18, President Cleveland touched a gold button at Buzzard's bay and started the machinery at the Atlanta exposition in motion.—Veteran Federal and Confederate soldiers meet in perfect harmony at the re-union of the Army of the Tennessee.—The steamer *Edam*, on her way from New York to Amsterdam, sunk off the southern coast of England by collision with the *Turkestan*. The passengers and crew saved.—The Spanish warship *Sanchez Bareaizegui* sunk by a coasting steamer at Havana. Admiral Parejo and thirty-five others drowned.—Rome celebrates, on Sept. 20, the twenty-fifth anniversary of the entrance of the Italian army into that city. A monument to the memory of Garibaldi unveiled.—It is reported that China will again occupy the Liao-Tong peninsula in October.—The Democratic state convention meets in Syracuse.—President Cleveland extends civil service reform by ordering that hereafter minor consuls and subordinates be required to show fitness for the posts desired.

Mrs. Ella B. Hallock, formerly a member of the editorial staff of THE SCHOOL JOURNAL, is making a marked success of physiological teaching in the Massachusetts institutes. Her training in pedagogy, gained in her editorial work, enables Mrs. Hallock to present and explain the subject of physiology and hygiene in a most interesting manner, and to show how it may be taught in accordance with pedagogical principles. It was this that led to her employment by that most critical body, the Massachusetts board of education. But she was not satisfied with knowing the general principles of pedagogy, she set out to prepare herself as carefully for the scientific part of her work, and has just completed a course in physiology and hygiene under the direction of Dr. G. N. Fitz, at the Harvard summer school. An article from her pen will be in next week's issue of THE JOURNAL.

A benefaction remarkable in several respects was that recently accepted by the Roman Catholic church in the Northwest, from James J. Hill, the president of the Great Northern Railway. The gift consists in the seminary of St. Paul whose completed buildings represent an expenditure of \$500,000, the deed, besides, assuring to the institution an indefinite extension of liberal assistance. The formal transfer of the institution was made to Archbishop Ireland in the presence of the Papal Delegate, Mgr. Satolli. Mr. Hill is not a Catholic. But in his brief and straightforward speech to those assembled to witness the giving of so munificent a gift he said that he had lived for thirty years in a Roman Catholic family, that his wife had impressed him with the truth of the text, "Blessed are the pure in heart, for they shall see God," and, observing that the Roman Catholic church in the Northwest cultivated its field zealously without wealth, he had been inspired to assist it with a portion of the riches with which he had been blessed. In the course of his remarks Mr. Hill told his hearers that he was familiar with the work done by the Roman Catholic church in the Northwest, and that the domestic interest he had confessed was supported by a desire that greater facilities should be provided for equipping the clergy of the church for the better prosecution of the work to which they consecrated their lives.

It is proposed to have a play-room and yard matron or janitor in the primary schools. Her duties should be to look after the children while at play and in their use of the closets. The woman who should thus look after the children at recess and be on hand in cases of illness should be selected with great care. It is an office needing tact, skill, patience, and an ability and willingness to mother small children, for it is they who need the most attention.

New York University School of Pedagogy.

The indications are that the sixth year of the School of Pedagogy, which begins on September 27, will be most successful. The enrollment last year was very gratifying, indeed, to the friends of the school, and of the movement for university training of teachers in pedagogy and its related branches. The school held its own in numbers, notwithstanding the fact that a new course of study went into effect, requiring double the amount of work for graduation. The raising of the requirements was largely appreciated, as the number of college graduates enrolled reached seventy per cent, the remainder being normal graduates.

The school attracts each year from different states. This year extremes are Maine and Colorado, each sending two students.

The faculty now numbers eight. The latest acquisition is Dr. Samuel Weir, a portrait and biographical notice of whom appeared in THE JOURNAL last week. Every effort is put forth to make the instruction of the coming year the best yet offered.

During the past year one experimental school under the School of Pedagogy was established and plans are already in progress for the establishment of two more of these schools, which will afford splendid opportunities for observation and practice.

The University of Chicago.

Scribner's Magazine for October contains a very interesting article by Robert Herrick on the great university founded by John D. Rockefeller, from which the following extracts are given: Speaking of the results of the co-education plan, Mr. Herrick says:

At Chicago, it may not be too much to say, the experiment has been tried of an absolutely sexless university education. Even in the short space of three years certain facts have become quite clear: the university has not attracted merely the ordinary constituency of a Western college, but the equal privileges in graduate as well as under-graduate courses have drawn a cultivated and mature class of young women; the intellectual standards have not been lowered by the presence of women, although it must be confessed co-education has doubtless kept away many desirable men who prefer the traditional freedom of a university without women to the more decorous life of a co-educational institution. It might be said that the average ability and scholarship of the women has exceeded that of the men. The hysterical feminine intellect in my experience is not met with more frequently than the dissipated masculine intellect in our Eastern colleges.

Of the character of the training given this is said.

At the University of Chicago the student graduates as a person, not as a

member of a class. His work and student life are individual from the very first. He enters the university when he pleases; he graduates when he pleases. His course has been individual and democratic. The conventions of an old society, the ambitions of a select set, do not trouble him. He has had great freedom, great opportunities, and the stimulus of an eager, emulous life. He goes away certainly not without some insight into what learning and scholarship mean, but without class loyalties, without the intimate personal life so dear to us who have had it.

Mr. Herrick says that the majority of the college students are poor, for whom attendance means hard work. He writes:

The undergraduate men are almost without exception from the central West. What is this student like? How does he act in college? What are his amusements? He is decidedly in earnest—too much so, I am inclined to think. Frequently his conditions of life force him to struggle for existence at the university. Students who are earning the means to study are the rule, not the exception. Every possible occupation that a large city affords from lighting lamps on the streets to tutoring or writing for the newspapers, furnishes the few needed dollars. This condition of strenuous poverty necessarily produces a very different atmosphere in the college world from the opulent spirit of our older institutions. The poor man is the dominant person; to be rich and idle would be almost unfashionable. To be sure, the atmosphere is not the dreamy half-lights of an Oxford garden; rather the harsh, invigorating breeze of a Colorado desert. Unrelieved, that, perhaps, is the word; unrelieved by prejudice, past and present. The student is unprejudiced in scholarship, accepting no traditions of what is really excellent to know; unprejudiced in social life, despising the tame amenities of a reticent society; unprejudiced in athletics, and therefore, thank Heaven! still willing to regard his amusements as avocations. He is untrained; even the ambitious candidate for a higher degree in the graduate schools is often lamentably unprejudiced about his foundation of knowledge, but he is eager, sensitive, industrious. College means for him work, and I am sure that the faculty rejoice in the fact that an industrious poverty will for a long time prevent any other conception from becoming universal.

Indian Education.

Miss Lydia Hunt, superintendent of the Indian school at San Carlos, Ariz., regards the question of Indian education a problem. "When I began to teach some years ago, I knew a great deal about the Indian question, and I had a good many theories about its correct solution. But now I don't profess to know anything about it, and I haven't any theories left. I have never known this process to fail. When persons enter the work they are full of radical ideas. But the longer they actually live among the Indians, especially on the reservations, and the more they see of them, the fewer decided opinions they have on the Indian question."

"This does not mean that he cannot assimilate knowledge. He masters the courses of instruction to which he is subjected as readily almost as the average Caucasian students. But when he goes back to his own people he relapses, almost inevitably, into savagery, and speedily forgets the civilization he is supposed to have acquired. The Indian boy after leaving school takes up his blanket and speedily becomes a barbarian in habit and manner.

Capt. R. H. Pratt, of Carlisle, Pa., thinks that:

"The school can be just as potent an engine to create prejudice, stifle ability, and narrow opportunity as it can be to extend these qualities. He can acquire all the qualities of good, useful citizenship in about the same time that other men acquire them. He is hindered or facilitated in acquiring them only by conditions and environments that would equally hinder or facilitate other men in acquiring the same qualities.

"A usable knowledge of any language is quickest and best gained through association with those who use it. Upon his having a usable knowledge of the English language hinges all his success in his industrial training. Ignorant of the language he is walled out industrially and in every other way. The best way to get civilization into the Indian is to get the Indian into civilization.

"If there were no Indian reservations, no Indian bureau, no Indian annuities, no Indian schools, and the Indian had had to 'root hog or die,' like the rest of us from the start, there would be more live Indians to-day than there are, and we should not be confronted with an Indian problem.

"We must not depend too much upon industrial training in Indian schools, however practical or however promising the conditions. The best Indian industrial school can only inaugurate the industrial idea and give a smattering of industrial usefulness. The bone and sinew of real industrial worth comes only through actual competition with real industrial bread-winners."

England.

It is believed that the Conservatives will do something to favor sectarian education. An arrangement was made with the English Catholics who supported the Conservative candidates in the recent election, and the Irish Catholic bishops have assented so that the government expects to have the votes of seventy anti-Parnellites in regard to sectarian education.

The twenty-fifth annual SCHOOL JOURNAL, New York and Chicago, contains eighty-eight pages, and is most handsomely and profusely illustrated. To the student and instructor this work is of great value, and deep research and care is evidenced in its make-up from the first page to the last. Among its contributors may be found the names of men famous in the educational circles of the country, and whose signatures to the papers contributed are sufficient guarantee of rare worth and experienced ability. The editorial department is fully abreast with the rest of the book's high standard subject matter.—*Florida Times-Union, Jacksonville, Fla.*

Kentucky.

In the *Sun* is an account of an examination for certificates where the candidates were all colored. There were ten questions given in each branch to be taught. In history, for instance, to the first question, "What was the hard cider campaign?" the answer was, "The hard cider campaign was the campaign in 1775." The second question was, "Give an account of the first telegraph," and this rather remarkable answer was elicited in response: "The first telegraph was sent by Gen. Grant to George Washington." Another answer was, "The account of the first telegraph was in 1840." The third question, "What was the Wilmot Proviso?" got these two answers: "The Wilmot Proviso originated from Wilmot; it was a law for provision." "The Wilmot proviso, it was in 1761." The fourth question was, "Who were the most noted commanders on both sides in the Mexican war?" and two answers were: "The most noted commander, Prescott on the Federal; on the Confederate was Putnam." "The most noted commanders on both in the Mexican war, George Washington, U. S. Grant, Generals Boregard and Prescott." To the fifth question, "Tell of Perry's expedition to Japan, and what it accomplished," these two answers came; "Perry's expedition to Japan was one of difficulty, but it accomplished much good." "The expedition to Japan, Gen. Perry accomplished something." The sixth question was, "Describe the Gadsden purchase and name the territory acquired," and one teacher answered, "Gadsden purchased Utah territory," and another wrote "The Gadsden purchase was in 1683 by Gadsden: it was Florida territory." The seventh question was, "Give some account of the Kentucky resolutions of 1798." This was easy, and one had the answer, "Kentucky drew resolutions to form a state in 1798 and resolutions for a printing press and to establish a newspaper;" while another, evidently with "resolutions" instead of "resolutions" in her mind, had the answer, "The battle was fought with the Indians and a hard fight insured between the Indians and the White men." The eighth question, "State facts as to the Spanish intrigues in Kentucky toward the close of the eighteenth century," got this comprehensive reply: "The Spanish wanted to come to Kentucky and invade the country." The ninth question was, "What was the political situation in Kentucky in 1861?" and one candidate said: "The whole country was in a confusion in 1861; some was for the emancipation and some was for hoarding slaves." Another came up with this; "Abraham Lincoln was president; he was making ready the emancipation proclamation; the civil war broke out in 1861; the first gun was fired Friday at 4 o'clock." The tenth and last question, "When was the centennial of Kentucky's admission celebrated, and how?" got this answer: "The centennial of Kentucky, 13 years ago at Louisville; it was the grandest of the day."

Under the civil government head the first question was, "What is civil law, ecclesiastical law, martial law?" "Civil law is that authority by which ruled a state. The Ecclesiastical law is that which is executive and sees that all is served alike. The Martial law is the divin (divine?) laws." "Civil laws are those which control civilized men. Martial laws those by which Martials are controlled." Question number two is: "What are the purposes of the United States Constitution as set forth in the preamble?" "It is set forth as written instrument for the People of the United States and for them to go by." Question four is, "From what source does the United States derive its powers?" and one applicant gave the answer: "The United States government derives its power from the President." The fifth, "To what was the weakness of the articles of confederation due?" got two opinions, one to the effect that it was due to the ignorance of the people, and the other, that it was due to the war. In response to the question, "Name two privileges of citizenship in the United States government as guaranteed by the Constitution," one applicant responded: "Every man has a right to do as he wants to do with his own, and to serve God if he wishes to do so." Another said: "Every man has a right to vote, black or white," and a third came forward with this incomplete idea: "The two privileges of citizenship in the United States, one is to vote." In response to the question, "What advantages may justly be expected to be gained by the secret ballot in Kentucky?" one answer was: "It is that every man can vote for either one, and there would be no trouble." Question eight, "In Kentucky what officers are liable to impeachment? What body has the sole power of impeachment?" Of trial? received this reply: "In Kentucky, the President are liable to impeachment. The Senate has the sole powers." An even more remarkable reply was given to the question: "In Kentucky, what is the title of the presiding officer of the House of Representatives?" The reply was: "The title of the presiding officer of Kentucky is McCreary, chose every two years."

In physiology and hygiene the first question is: "What is anatomy? What is hygiene and how does it aid us?" "Hygiene is the studie of the human body, and it all so aids us in taken the proper care of the body and to preserve the best of health;" another said: "It is the art of dissecting." No. 2 of the questions was: "Name and define two kinds of muscles," and the answer of the applicant was: "The voluntary and the involuntary muscles: the involuntary is thoes that reflex, and the vol-

untary are thoes extend." To the question, "Why are two light woollen garments warmer than one heavy one?" an answer was: "Because they ar of wool, and the hevny ones are of cotton." "Name and locate the organs of circulation." "The organs of circulation is the heart near the left brest, and the Lunges in the center part of the spinal colum." Question five, "What are the veins and their functions?" was answered thus: "The veins carries the blood to difference parts of the body, they are also called leaders." "Why is frying an unhealthy mode of cooking food?" The answer was: "Because the food is not thourly cook, and it is unhealthy for eating." Another answer was: "Because to much grease is not healthy; it will cause despepsy."

Describe the brain and name its parts," was answered "The brain is something like an English walnut. It is divided into three parts; Cebum is the larger brain, Cebelum is the small brain, and Medulla oblongata." (2) "The brain are in the skull near the back part and looking very much like that of a hog." "What is delirium tremens and what causes it?" one applicant said: "The delirium tremens nervessness and are caused by bean frightened or scared;" and another said: "Delirium tremens are a kind of fever and caused by filth in the system." What are the hereditary effects of alcohol?" "The effects of Alcohol is very bad on any one that uses it for a drink;" and another was: "Alcohol can be hereditd from parents. Then it can be taken from far-off relations."

Kansas.

Wamego has an admirable high school judging from the *Kansas Agriculturist* which gives the course of study and other information, and from the evidently clear educational thinking of the principal. Let it be said here that a fine school building such as Wamego has is worthless unless the teachers understand education; and by this word education is not meant that they know arithmetic and grammar.

Iowa.

W. H. Turnbull, of Lansing, Mich., has been elected principal of the high school at Sioux City. About 100 applications were received. The first ballot resulted in the election of Prof. Turnbull at a salary of \$1,500. Mr. Turnbull is about twenty-eight years old, was born in Des Moines, and graduated from the college of Ann Arbor, Mich., in 1891. He served as assistant principal for two years in the high school at Manistee, Mich., and has been principal of the high school at Lansing for the past two years.

Nebraska.

A good deal of attention has been centered on Omaha, because of the non-election of A. P. Marble to succeed himself as superintendent of schools, and the election of Carrol G. Pearse to that post. We cannot enter into the controversy, it is too long. The charge that the A. P. A. had anything to do with it is totally denied. Marble appealed to politics in Worcester and was successful for a time; then he lost. In Omaha, he was liked well enough, but politics is a more uncertain thing out West than it is down East. We should say it is an indication that politics is not as good a thing to employ in education as it once was. But that A. P. Marble is an able man, and worthy of as good a place as Omaha, no one can deny. His successor is Carrol G. Pearse, who is a graduate of the normal course at Done college, Crete. For the last seven years he has been superintendent of the public schools at Beatrice. He has served as a member of the committee appointed upon school legislation and as president of the state teachers' association, was president of the state association of superintendents and principals of graded schools, and is now president of the educational council, selected by the different branches of the state educational association to consider and report upon educational matters to the state society; at the meeting in Denver of the National Educational Association he was elected one of the twelve vice-presidents of the society.

Virginia.

The True Reformers is the name of an institution invented by a negro in 1880, with a capital of \$150; the fifteenth annual meeting was held in Richmond lately; 500 delegates were in attendance and they decided to pay him for his rights \$50,000. Beginning in Richmond, he succeeded in putting his system in operation in nearly every city, town, and hamlet in Virginia, and has many lodges in nineteen other states of the Union, with a total membership of over 30,000. In the space of fifteen years he disbursed over \$250,000 and purchased over \$100,000 worth of real estate. Many of the buildings owned by the order are paying ten and fifteen per cent. on the investment.

The chairman of the committee on banking and insurance examined the books of the bank and found them kept in the most simple and accurate manner. Before the committee, on a table in

the bank \$25,000 in gold, silver, and paper money was placed.

The institution now has in its employ over 100 negro clerks, men and women, with 200 boys and girls in training, to be placed in active service as rapidly as the necessities of the order shall require the opening of branch banks and the like. It is a sort of business college. The business in all departments of the order during the past year amounted to \$91,773.04.

South Carolina.

At Columbia, in the Constitutional Convention, Delegate Durham introduced a proposition: To provide for the imposition of an annual tax of three mills, the proceeds of which together with the poll tax, shall be set aside as a common school fund. The fund is to be divided into two parts. The tax paid by the whites is to be kept separate from that paid by the blacks. The taxes collected from each race are to be devoted to the education of each race. Last year the common school fund amounted to over half a million dollars, of which Afro-Americans paid only about \$70,000. The school attendance last year showed 120,000 black and 80,000 white children. The passage of the Durham ordinance will give about a dollar a year for the education of each negro child.

Suppose, in New York, we should declare that the Italians or the Hungarians should enjoy only so much of the \$6,000,000 of school money we appropriate this year as they contribute toward it, how would the discrimination be regarded by intelligent mankind? Can South Carolina afford this? Already its prisons and chain gangs as overcrowded as a result of ignorance and poverty. This plan is against the best interest of South Carolina.

Maine.

There is trouble in Belfast: between the school committee and the city government arising from the suspension of schools Nos. 10 and 15 by the school committee. The committee claims that the best interest of all concerned has been served by the suspension of the schools, and that ample provision has been made elsewhere for the pupils. The mayor contends that the board is a continuous body and that after the first year cannot suspend a school. He threatens to apply to the court for a writ of mandamus.

Manual training has been introduced into the Saco schools as an adjunct to the regular school work. It will be compulsory three hours a week for boys in the four upper grades. The instructor is Walter B. Fuller, a graduate of the Worcester polytechnic institute. Three cities in the state have adopted manual training. Portland introduced it two years ago, and Westbrook, as well as Saco, begins it this year.

Biddeford has established an ungraded day school for backward pupils from the primary schools who are a drag on the progress of their classmates and a hindrance to the teacher. Superintendent Gould expects to transfer about thirty pupils from the regular schools to this one. Habitual truants will also be sent there, and the number of pupils will probably mount up to fifty. The work of this school will be like that of any ungraded country school, the teacher having more classes and teaching more subjects than in the ordinary city schools. The superintendent of schools hopes next year to introduce the kindergarten as a part of the school system. Lack of funds prevented its establishment this year.

New Hampshire.

Every member of the sub-committee on drawing in the public schools at Nashua has resigned because the teacher of drawing resigned and then withdrew her resignation. It seems that they had already appointed a new drawing teacher, and as they had two teachers on their hands they saw no way out of the difficulty but by resigning themselves. The hasty action of the committee is severely criticised by those acquainted with the facts of the case.

California.

Mrs. K. B. Fisher, who for years was the head of the department of English literature at the Oakland high school, died Sept. 4, after a protracted illness.

Minnesota.

A committee has been recently formed in the state to formulate plans for a society of child-study.

New Jersey.

In Martinville, Miss Libbie Ribble married one of the trustees David E. Mundy, shortly after the commencement of the summer vacation. Mrs. Mundy expected to resume her duties as teacher.

To her surprise it was intimated that the board of trustees desired her resignation and the young woman decided that she would not resign. Then the board adopted a resolution to pay her but \$10 a month, which is one-third of her regular salary. Mrs. Mundy accepted it under protest, and says she intends to bring suit against the board for the balance of her salary.

Michigan.

Miss Ada Van Stone Harris has been appointed principal of the practice department of Ypsilanti state normal school. She had charge of the Duluth training school for the past three years.

New York.

The state department of public instruction has been called upon to construe section 4 of Article IX. of the amended constitution, known as the educational article, which reads as follows:

Neither the state nor any subdivision thereof shall use its property or credit or any public money, or authorize or permit either to be used, directly or indirectly, in aid or maintenance, other than for examination or inspection, of any school or institution of learning wholly or in part under the control or direction of any religious denomination, or in which any denominational tenet or doctrine is taught.

The matter comes up on an appeal from a decision of the West Troy board of education. The appeal papers recite the fact that under chapter 881 of the laws of 1895 four commissioners of education were elected in West Troy, and that under the act they appointed four others. This board accepted an offer made by the bishop of the Roman Catholic diocese of Albany to lease for \$1 a month the parochial school building of St. Bridget's church. The Catholic authorities agreed to pay the salaries of a fireman and a janitor. Then a resolution was adopted by the board appointing fifteen teachers, eight of whom were for this school. All eight were Catholics and six were sisters belonging to the Roman Catholic convent of St. Joseph, of West Troy. The six sisters were examined in a separate room, because of a rule of their sect forbidding them to appear in mixed gatherings. All received commissioners' certificates entitling them to teach in the public schools. The appellants say they do not believe that these sisters were properly examined or passed the examination. It is further alleged that, as the sisters are forbidden by their rules to attend teachers' institutes, which is required of all public school teachers, they are not qualified to teach; that the rent charged is not sufficient for the care of the rooms even; that the school is wholly or partly under the control or direction of a religious, sectarian denomination, and that denominational doctrines or tenets are taught therein, and that many parents will not send their children to the school while it is under such control. They ask the superintendent to annul the action of the West Troy board of education in leasing the school as well as the contracts with the six teachers, and to provide a suitable building and employ duly qualified teachers irrespective of any religious denomination.

The issue of this case will be watched with much interest all over the state, as it is the first appeal of the kind made under the revised constitution.

The Rev. James Hall, pastor of the First Congregational church, Roslyn, had established a preparatory school for young men. The school attendance has grown so rapidly that enlarged quarters had to be arranged for. The Rev. Mr. Hall purchased a piece of land at Roslyn Heights, and plans for a new building were drawn. When builders in the church learned that the contract had been given to an outsider they began clamoring for the resignation of the Rev. Mr. Hall, and he resigned.

Brooklyn

The Brooklyn Ethical Association has planned a series of discussions of educational topics for the season of 1895-96. The general subject is "Evolutionary Principles Applied to Education." The sessions are open to all who are interested in evolutionary principles and are held Sunday evenings, at 7.45 o'clock, at the Pouch mansion, 345 Clinton Ave. A Huxley Memorial meeting will open the course, on October 13. This promises to be a notable event and one that will attract a large audience. Prof. Edward D. Cope, of the University of Pennsylvania, and president of the American Association for the Advancement of Science, will be the principal speaker. His subject will be, "Thomas Huxley, the Teacher of Evolution." Brief addresses will be made by Rev. John W. Chadwick, Dr. Daniel Greenleaf Thompson, and others.

New York City.

The Young Men's Institute of the Y. M. C. A. is doing a most commendable work for the educational advancement of ambitious young men among the wage-earners of the city. It is con-

ducted very much on the same plan as the Polytechnic Christian Institute of London. Last season 463 young men between the ages of 17 and 35 were enrolled in the evening classes, most of them coming from shops, offices, and factories. Among the branches taught in these classes are bookkeeping, penmanship, arithmetic, English grammar, shorthand, typewriting, drawing (mechanical, architectural, and freehand), carriage drafting, steam engineering, electricity, and vocal music. Experienced and able teachers are secured and the courses of instruction planned to directly help young men in the work in which they are engaged. Besides there are many other privileges open to members, among them the use of an excellent circulating library, a large reading room, bowling alleys, a well-equipped gymnasium, and shower and spray baths. Every Tuesday night a scientific lecture or a musical and literary entertainment is given. A nominal fee is charged for membership; varying from \$4 to \$7.50, according to the number of privileges taken by the members. During the summer many improvements have been made in the building which is located at Nos. 222 and 224 Bowery. A circular has been issued inviting all who take an interest in the work of the institute to attend the opening exercises on Tuesday evening, Oct. 1.

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What brought John W. Foster into such prominence in Chinese matters?

E. L. G.

Hon. John W. Foster made a tour of the world after retiring as secretary of state in Gen. Harrison's cabinet. He visited China and made the acquaintance of the Viceroy Li. He had been the counsellor of the Chinese legation in Washington, and was well informed as to their affairs. On this account, he was invited in December last, after Cheng Yen Huan had been designated as chief commissioner to sue for peace, to go to China and become chief adviser. He arrived after the Japanese had declined to negotiate with the second embassy. He accompanied it afterwards to Shimonoseki and it is fair to infer that he was an important factor in aiding the Chinese at this juncture.

After the treaty was signed he went with it to Peking, and by

his arguments, induced its ratification. He was invited to become permanent adviser, and to accompany Li Ching Fong to exchange the ratification of the treaties, and finally to deliver the formal possession of Formosa and the Pescadores to Japan. His mission was a great compliment to American statesmanship.

What is the Mora claim which has just been paid?

F. L.

In 1869 the Spanish government during the Cuban revolutionary movement seized the estates of Antonio Maximo Mora, because of the participation of his brother, Jose Maria, in the revolution. Antonio was at the time a naturalized citizen of the United States. He was, although residing in New York, sentenced to death by court-martial for sympathizing with the revolutionists, and his estates valued at several millions of dollars confiscated. He tried to have the finding set aside on the ground that he was an American citizen, but the Spanish government decided that Mora had no civil status. In 1872 Senor Mora's protest was gone over by the Spanish Claims commission, which decided he was an American citizen, and that there was due from the Spanish government \$1,500,000 indemnity. This was never paid, and the matter dragged through succeeding administrations until Secretary Gresham, shortly before his death, brought about a settlement, which was consummated by Senor De Lome, the Spanish minister, Sept. 12, delivering to Acting Secretary of State Adee, a draft for \$1,449,000, drawn on the Spanish financial agent in London.

Fall and Winter Associations.

Oct. 11-12. Nebraska State Association of Superintendents and Principals at Lincoln. Edwin N. Brown, president.

Oct. 18. Connecticut State Teachers' Association at New Haven. W. I. Twitchell.

Oct. 17-19. Northeastern Iowa Educational Association at Charles City. W. D. Wells, Grundy Center, pres.; O. M. Elliot, Reinbeck, sec'y.

Oct. 16-18. Nova Scotia Provincial Educational Association at the normal school, Truro. A. McKay, Halifax, secretary.

Oct. 16, 17, 18.—New York State Council of City and Village School Superintendents at Newburg, N. Y. R. K. V. Montford, President. Newburg.

Dec. 26, 27, 28.—Idaho State Teachers' Association at Moscow.

Dec. 31-Jan. 1-2. Iowa State Teachers' Association at Des Moines. R. C. Barrett, pres.; Carrie A. Byrne, chairman ex. com.

Books.

In the study of geography, the value of the use of different materials for the formation of models of the land forms is fully recognized. The question is as to the method. How can map modeling be used most effectively in enlarging the pupils' knowledge of the earth? Prin. Albert E. Maltby answers it in his book entitled *Map Modeling in Geography and History*. The volume embodies the result of a long and successful experience in teaching. It will enable young teachers to take up the work and pursue it without making those mistakes that would be inevitable without some help of this kind. The work described includes modeling in sand, clay, putty, paper pulp, plaster of Paris, and other materials; also chalk modeling in its adaptation to purposes of illustration. The pupil begins with the most familiar objects, as fields, hills, etc., and proceeds gradually until the study of continents is reached. Under "Nature Study," quartz, granite, sandstone, limestone, marble, and other common substances are considered. "Map Modeling in History" includes lessons in home geography, forms of land, products, occupations, manufac-

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James N. Cooley, School Commissioner, Second District, Queens Co., N. Y.: "They will fill an important place in our graded schools. As our course is now arranged, the books will be an efficient aid to the busy teacher."

J. Fairbanks, Supt. of Schools, Springfield, Mo.: "I have seen nothing upon the subject that meets my ideas more fully, and it seems to me that they must meet with prompt and extensive favor among educators. They are first-class in every particular."

R. H. Halsey, Supt. of Public Schools, Oshkosh, Wis.: "The more I examine the problems the greater reason have I for commending the judgment of the author in the careful gradation of his work."

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E. G. G.

Both argon and helium have the same atomic weight, 4.26. Argon exists in the air because it has no affinity for the other elements; this is the reason nitrogen exists there also; the elements with which it combines are comparatively rare and they are decomposed by water. Oxygen exists there it is believed, because a quantity is left over after all the other elements had taken their share. Argon is called a monatomic element—that is an atom of argon forms a molecule; its boiling point is 187 degrees. Chemists say that if hydrogen existed free in the atmosphere it would rise and go to some other celestial body having enough gravitating power to hold it.

What brought John W. Foster into such prominence in Chinese matters?
E. L. G.

Hon. John W. Foster made a tour of the world after retiring as secretary of state in Gen. Harrison's cabinet. He visited China and made the acquaintance of the Viceroy Li. He had been the counsellor of the Chinese legation in Washington, and was well informed as to their affairs. On this account, he was invited in December last, after Cheng Yen Huan had been designated as chief commissioner to sue for peace, to go to China and become chief adviser. He arrived after the Japanese had declined to negotiate with the second embassy. He accompanied it afterwards to Shimonoseki and it is fair to infer that he was an important factor in aiding the Chinese at this juncture.

After the treaty was signed he went with it to Peking, and by

his arguments, induced its ratification. He was invited to become permanent adviser, and to accompany Li Ching Fong to exchange the ratification of the treaties, and finally to deliver the formal possession of Formosa and the Pescadores to Japan. His mission was a great compliment to American statesmanship.

What is the Mora claim which has just been paid?

F. L.

In 1869 the Spanish government during the Cuban revolution any movement seized the estates of Antonio Maximo Mora, because of the participation of his brother, Jose Maria, in the revolution. Antonio was at the time a naturalized citizen of the United States. He was, although residing in New York, sentenced to death by court-martial for sympathizing with the revolutionists, and his estates valued at several millions of dollars confiscated. He tried to have the finding set aside on the ground that he was an American citizen, but the Spanish government decided that Mora had no civil status. In 1872 Senor Mora's protest was gone over by the Spanish Claims commission, which decided he was an American citizen, and that there was due from the Spanish government \$1,500,000 indemnity. This was never paid, and the matter dragged through succeeding administrations until Secretary Gresham, shortly before his death, brought about a settlement, which was consummated by Senor De Lome, the Spanish minister, Sept. 12, delivering to Acting Secretary of State Adee, a draft for \$1,449,000, drawn on the Spanish financial agent in London.

Fall and Winter Associations.

Oct. 11-12. Nebraska State Association of Superintendents and Principals at Lincoln. Edwin N. Brown, president.

Oct. 18. Connecticut State Teachers' Association at New Haven. W. I. Twitchell.

Oct. 17-19. Northeastern Iowa Educational Association at Charles City. W. D. Wells, Grundy Center, pres.; O. M. Elliot, Reinbeck, sec'y.

Oct. 16-18. Nova Scotia Provincial Educational Association at the normal school, Truro. A. McKay, Halifax, secretary.

Oct. 16, 17, 18.—New York State Council of City and Village School Superintendents at Newburg, N. Y. R. K. V. Montford, President. Newburg.

Dec. 26, 27, 28.—Idaho State Teachers' Association at Moscow.

Dec. 31-Jan. 1-2. Iowa State Teachers' Association at Des Moines. R. C. Barrett, pres.; Carrie A. Byrne, chairman ex. com.

Books.

In the study of geography, the value of the use of different materials for the formation of models of the land forms is fully recognized. The question is as to the method. How can map modeling be used most effectively in enlarging the pupils' knowledge of the earth? Prin. Albert E. Maltby answers it in his book entitled *Map Modeling in Geography and History*. The volume embodies the result of a long and successful experience in teaching. It will enable young teachers to take up the work and pursue it without making those mistakes that would be inevitable without some help of this kind. The work described includes modeling in sand, clay, putty, paper pulp, plaster of Paris, and other materials; also chalk modeling in its adaptation to purposes of illustration. The pupil begins with the most familiar objects, as fields, hills, etc., and proceeds gradually until the study of continents is reached. Under "Nature Study," quartz, granite, sandstone, limestone, marble, and other common substances are considered. "Map Modeling in History" includes lessons in home geography, forms of land, products, occupations, manufac-

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bottom of the line, thus serving as a line guide. The entire line of writing is brought into view and the exact location of the next impression is accurately indicated by the notch in the center of the shield. The new shuttle shield frame differs from the old in that it is pivoted on the front of the shuttle guard and is held down by a swivel lock that is turned into position by the thumb and fore-finger to prevent it jumping up when the shuttle guard is released. The new shield is straight, having no corrugations at the end to pull out of shape.

The new marginal stop consists of a finger piece operated by the disengaging lever, that when marginal notes are required, can be raised so as to pass the carriage stop block, thus allowing the carriage to pass to the next stop. Then there is the new feed roll knob of hard rubber of increased size that greatly facilitates the rapid insertion, lowering, or raising of the paper and adds to the general beauty of the machine; also the new spring winder roll, insuring a uniform tension and giving better results in manifold.

"What sort of material shall I select for fall and winter dresses?" can be answered most satisfactorily by paying a visit to the well known store of Arnold, Constable & Co., at Broadway and 19th street, where the regular fall importations are now displayed. In setting the present styles, the manufacturers have gone back to the ante-bellum days, and even to the earlier times of powder and patches, for their patterns and color schemes. Throughout it all there is a tendency to run the changes on Parisian effects in design and color. Neutral tints and the die-away colors of recent years are things of the past. Of course all these goods will be reserved for evening wear chiefly, with an exception in favor of the brocades, which are to be largely used in the making of the new Louis Quatorze, that will gradually supplant the fancy waists of the prevailing mode. Street costumes, too, will take on added richness of color this season. Another line of goods that will be much worn by the fashionable, and which also keep up the general gorgeous color scheme, are embroidered chiffons in all shades, with chiffon bands, with lace and spangles, suitable for waist trimmings, etc. Lace collars, as all women know, are among the things without which a costume is now hardly complete. The latest styles are in renaissance and batiste lace, with the higher grades in duchess and point.

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'The Chandler Adjustable School Furniture Co., of Boston, have had a very profitable season. Mr. Butler says: "We have more orders than we can fill," and also adds: "We consider our success due to our advertising."

The Boston School of Oratory, formerly at 110 Boylston street, has united with the Boston School of Expression. The office is 458 Boylston street.

The Standard School papers manufactured by Smith & White, of Holyoke, Mass., have made rapid leaps into popularity—a new building is being constructed to permit more extensive work. E. E. Babcock & Co., of Boston, the New England agents, say they cannot fill orders as they would like to.

N. L. Wilson, of 170 Tremont street, Boston, is a great "ologist." He says there are twenty-two of them and he deals in fifteen. He makes a specialty of collections for schools.

An excellent addition to American History literature are the Old South Leaflets published by the directors of the Old South Studies, Old South Meeting House, Boston. There are at present sixty-four leaflets in the series, and they can be purchased for five cents each or \$4.00 per hundred. The historical matter is very interesting.

Bradlee Whidden will issue shortly another of those charming little books by Edward Knodel. This will be about moths. There will be as usual a large number of engravings drawn from life by the author himself. These little books have won great popularity.

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Tiny Tot's Speakee, compiled by Lizzie J. Rook and Mrs. E. J. H. Goodfellow, contains a large number of selections for the youngest pupils in both prose and verse. It will be a good book to draw from for school entertainments and other occasions, as the selections cover a wide field. (The Penn Publishing Co., Philadelphia. Boards, 25 cents; paper, 15 cents.)

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Selections from Browning for school use is published by A. Lovell & Co. In about 100 pages many good things are collected.

Literary Notes.

The Messrs. Putnam will soon issue in their Heroes of the Nation's Series *Charles XII. and the Collapse of the Swedish Empire, 1682-1719*, by R. Nesbit Bain.

Tolstoi's *Master and Man*, will be added to the Messrs. Crowell's series of booklets.

Beginning this month Messrs. Lippincott will bring out a new edition, in eight volumes, of the complete works of Poe, with twenty-four photogravures. Two volumes will be issued each month. The printing and binding will be of high quality.

Messrs. McClurg, of Chicago, have about ready a volume of *Recollections of Lincoln, 1847-1865*, by the late Ward H. Lamont.

Sweet Alice and Ben Bolt have, in a measure, lost balladic form to their creator, Thomas Dunn English, for they come ringing at his door, through the medium of the Newark (N. J.) postman, about as often as the letter carrier delivers his daily mail. Letters to Mr. English are incessantly asking for his autograph, and there are some modest, yet enthusiastic, persons who beg for copies of "Ben Bolt," "to be writ out with his own pen," and just as often these requests are unaccompanied by stamps.

Donald G. Mitchell's new volume in his series entitled *English Lands, Letters, and Kings*, is inscribed to Mrs. Grover Cleveland.

Interesting Notes.

The greatest forest in the world is said to be in Siberia, where the great plains of the Yenisei, Olenek, Lena, and Yana rivers comprise a great timber belt. It averages 1,000 miles in breadth, from north to south, and in the Yenisei district is 1,700 miles wide. The length is fully 3,000 miles. The trees are principally pines, firs, and larches, and they rise to a height of 150 feet, and they stand so closely together it is difficult to walk among them.

Next in size is the forest of Central Africa in the valley of the Congo. This region is estimated to be 3,000 miles in length from north to south, and its vast width is not known. An immense forest region is in the valley of the Amazon, comprising much of northern Brazil, Ecuador, Colombia, Peru, and Bolivia.

In North America the two greatest forests lie north of the St. Lawrence river, extending to Hudson's bay. A tract of forest land still larger extends from the state of Washington northward through British Columbia and Alaska.

The teacher will advise his pupils that the boundary question with England involving important American interests in Alaska is yet to be settled. The British-Canadian member of the boundary commission was appointed last week. Who will be the American member of it? Who understands our interests? It should be some one who understands the geography of Alaska. England should be made aware that she is not dealing with Venezuela nor with Africa.

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Cold burns may be produced by extremely low temperatures, as M. Raoul Picket has lately shown. There are two degrees of burns. In the first kind the skin reddens, and turns blue the next day, while the area of the burn expands till it is double the original size. The burn does not heal for five or six weeks, and is accompanied by painful itching. The second variety of burn, which is more serious, is caused by a longer contact with the cold body. The skin comes off, suppurating sets in, and parts affected by the cold act like foreign bodies. M. Picket, when suffering from a cold burn once scorched the same hand. The scorched part healed in ten or twelve days, but the cold burn did not heal for five or six months.

At Altdorf, where the legend says the hat of Gessler was set up in the market place, a colossal bronze statue of William Tell has been unveiled by the president of the Swiss federation.

In China an aspirant for a civil service appointment does not get discouraged at the first failure to pass an examination. At a recent examination there were thirty-five candidates over eighty years old, and eighteen over ninety. These men had been taking examinations all their lives without getting an appointment.

The chinchona tree, from which quinine is obtained; is largely cultivated in Java, Hindustan, Jamaica, Guiana, and the Fiji islands. It was very difficult formerly to find the wild trees, and the Dutch government had seeds gathered and plants brought from South America to Java to be cultivated. Other plantations have sprung from this, and they produce large quantities of the drug. The name chinchona, was officially adopted as late as 1892, but the drug has been known for a long time. The discovery of its medicinal properties is credited to the Jesuits, and it was known as "Jesuits' Powder." It grows in a wild state in many countries of South America, but it is said that it will not thrive in North America.

September is the golden month for insects. The bees are busy in the golden-rod and thistle. The great bumblebee, the domestic bee, and the wild bee are all busy together. They seem to feel bound to make honey while the sun shines. The spiders are busy as the bees. Every morning their webs cover the hollows of the fields. Their long, straight cables stretch from tree to tree. The humming bird is taking his last taste from the honeysuckle, the nasturtium and the trumpet creeper's insect work is now to be found everywhere; eggs neatly glued upon twigs; cocoons hung in safe and inconspicuous places; ovals, apparently made of cotton, are stuck in little hollows in the bark of trees. The

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careless butterflies are lulled back by the still air and golden sunshine. They must soon disappear, but that will be as numerous as ever next summer; they have laid plans for the coming year.

Capt. Hinde, who has been traveling and fighting for some years in the Congo basin, said almost all the tribes there practice cannibalism, though in some parts it is prevented by the presence of white civilization. In others it seems to be on the increase. An extensive traffic in human flesh prevails in many districts, slaves being kept and sold as articles of food. In the country of the Baletela one sees neither gray-haired persons, halt, maimed, nor blind. Even parents are eaten by their children on the approach of the least sign of old age. Under such circumstances the Baletela are a splendid race. After a fight the native camp followers of his expedition invariably ate the dead.

The Japanese yeast is derived from an obscure fungus belonging to the mildew family. It is propagated by putting it in boiled bran. It is used for brewing purposes, and produces more alcohol than yeast. It is in the making of bread that it is expected to prove of most value.

Garden City has long been the center of irrigation in the semi-arid west of Kansas. The Arkansas river, flowing with an average descent of seven feet to the mile, which afforded an excellent source of water supply for irrigation, the earliest settlers tapped with small ditches to supply water for their single farms; this proving successful led to the formation of companies, and from 1885 many canals were constructed, varying from a few miles to nearly 100 miles in length, to irrigate not only the valley lands, but to carry water to the highlands. At the present time there are about 150 reservoir-irrigated farms of various sizes successfully operated in the vicinity of Carden City, and more constantly in preparation, and it is predicted that in a very few years the arid prairie will blossom in a new era of beauty and prosperity.

Among some of the curious things exhibited at a recent ladies' night of the Royal society at Burlington house, London, were larvæ whose colors had been influenced in the space of a single summer by varying their environment; the telautograph of Prof. Elish Gray, which reproduced writing, sketches, etc., at a distance equivalent to three miles of ordinary conductor; an apparatus for showing the gravitational attraction of a lead sphere eight inches in diameter on a small gold ball; an induction balance which plainly detected the presence of metal in its vicinity; a new form of camera for taking microphotographs of bacteria; gold leaves four millionths of an inch thick—that is, five to ten times more tenuous than beaten gold leaf, obtained by electro-deposition on copper and subsequent chemical dissolution of the baser metal; and, finally, photographic prints in natural colors, obtained by printing in the primary colors only.

The British Society for the Protection of Birds has issued a leaflet on the bird of paradise, containing an appeal to woman throughout the world to discountenance the sacrifice of this marvelous and beautiful bird, which is daily becoming rarer, by refusing to wear or purchase its feathers.

There are now 850 electric railways in the United States, with more than 9,000 miles of track, 2,300 cars, and a capital of \$400,000,000. In 1887 the electric roads in the United States numbered only thirteen, with about 100 cars.

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Probably not one person among a hundred has even an approximate conception of the illuminating power of one of the great modern electric search lights, and it is only vaguely understood that it must be something enormous. As a matter of fact, with the projecting reflectors in use, which serve as multiplying factors for the actual candle-power of the electric arc, the illuminating capacity of the beams issuing from one of the large modern search lights has been placed at the equivalent of something over 200,000,000 candles. Just what this means is not easily realized, though a popular measure of the lighting power is afforded by the statement that, under favorable atmospheric conditions, one of these large lights can be seen nearly a hundred miles away, and will illumine objects at a distance of almost twenty miles with sufficient clearness to make their examination possible with the aid of a field glass.

A German chemist is reported to have discovered a new substance which has the remarkable and unique property of solidifying when heated and remaining liquid at temperatures below zero. It has been named cryostase, and is obtained by mixing together equal parts of phenol, camphor, and saponine, and adding a somewhat smaller proportion of essence of turpentine. Certain substances, like the albumens, harden on heating, but this is the only product that again liquefies on cooling.

"Astronomers are not agreed that all the surface markings on the moon can be explained by volcanic action," says *Popular Astronomy*. "Those who believe that the volcanic theory accounts for the so-called crater formations with central cones, are not satisfied with such an explanation for the origin of the walled or rampart plains. They confess that the origin of these features and some others are beyond their explanation."

The Little Negroes are the smallest people in the world with the exception, perhaps, of the black dwarfs of the Congo, who are said to average only four feet and two and one-half inches in height. Owing to the extreme wildness of the little people and the difficulty of approaching them, they have never been studied to any extent except on the Andaman islands. There the race has been kept particularly pure, no intrusions by strangers having occurred. At all events there has been no settlement by foreigners, though Malays and Chinese have for centuries frequented the islands for the purpose of gathering edible swallows' nests. They have laid traps for the natives in order to catch them and make slaves of them. On this account the pygmies have made a practice of killing mariners who chance to be cast away on their shores. By nature they are gentle and kindly. Their morals are an improvement on those of most white people. The sight and hearing of these pygmies are extremely delicate, the former sense being more developed among tribes in the jungles, and the latter among people who live on the coast. The dwarfs are short-lived, fifty years among them being extremely old age. On the Andamans the pygmies do not know how to make fire, but only to keep it alive. They say that they got it originally from a god, but it may have been obtained from one of two volcanoes in the neighborhood.

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